

REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed May 14, 2003. That Office action notes that claims 1-20 are pending and rejects claims 1-20. By this amendment, claims 1, 8, and 16 are amended.

DRAWINGS

The Office Action indicates that Figure 1 should have the legend --Prior Art--. In response, Figure 1 is amended to include the legend "Prior Art." Accordingly, withdrawal of the objection to Figure 1 is respectfully requested.

Rejections of Claims 1-2 and 16-17 under 35 U.S.C. §103(a)

The Office Action rejects claims 1-2 and 16-17 under 35 U.S.C. §103(a) over allegedly admitted prior art (APA) in view of Haruhiko, JP No. 07-199866. Applicants respectfully traverse this rejection. As explained below, claims 1-2 and 16-17 are patentable under 35 U.S.C. §103(a) over any permissible combination of APA and the cited reference.

Claims 1 and 16, and their dependent claims 2 and 17, are allowable under 35 USC § 103(a) at least because one of their features, that image data applied by a data driver is simultaneously applied to two data lines, is not suggested in any combination of the cited material.

The Office Action asserts that Haruhiko teaches a switch that is responsive to a corresponding control signal to selectively connect two data lines to each other. However, Haruhiko teaches connecting adjacent data lines together during non-imaging periods for the purpose of reducing power consumption. Haruhiko teaches an LCD display operated such that adjacent column lines are driven out of phase: when one has a plus voltage the other has a negative voltage. Furthermore, the drive potential of each column line is reversed in subsequent imaging periods. Thus, lines having one polarity of stored charge, for example +5 volts, have to be charged to another potential,

for example -5 volts, before the next imaging period, while adjacent lines having the opposite polarity, (-5 volts) also have to be reversed. To reduce power consumption, adjacent column lines, which are charged to opposite potentials, are shorted together in non-imaging periods. This reduces the power required from the power supply.

In contrast, claims 1 and 16 require that image data that is simultaneously applied to two data lines. Such is not taught in or suggested by APA or Haruhiko, either individually or in combination. Accordingly, withdrawal of the 35 U.S.C. §103 rejection of claims 1-2 and 16-17 is respectfully requested.

Rejections of Claims 3, 7, 18-19
under 35 U.S.C. §103(a)

The Office Action rejects claims 3, 7, 18-19 under 35 U.S.C. §103(a) over APA and Haruhiko as aforementioned in claims 1, 2, 16, in view of Keeney, U.S. 2002/0113766A1. Applicants respectfully traverse this rejection. Claims 1 and 16, from which claims 3-7 and 18-19 depend, are patentable under 35 USC §103(a) at least because the patentable feature mentioned above is not found in any combination of the cited material.

As discussed earlier, neither APA nor Haruhiko teach or disclose the invention defined by the independent claims 1 and 16, upon which claims 3, 7, and 18-19 depend. Keeney does not make up for this deficiency. Keeney et al. teaches methods and apparatus for repairing pixel defects by disconnecting inoperative pixels from their drive circuitry and then connecting the defective pixels to nearby working pixels. In contrast, amended claims 1 and 16 relate to image data that is simultaneously applied to two data lines. Accordingly, withdrawal of the U.S.C. §103 rejections of claims 3, 7 and 18-19 are respectfully requested.

Rejections of Claims 4, 6, and 20
under 35 U.S.C. §103(a)

The Office Action rejects claims 4 and 6 and 20 under 35 U.S.C. §103(a) over APA and Haruhiko aforementioned in claim 1-17 in view of Lee et al., U.S. Patent No. 6,028,442. Applicants respectfully traverse this rejection. Claims 4, 6, and 20 are

patentable at least because they depend from claims 1 and 16, and since the patentable feature mentioned above is not found in any combination of the cited material.

As discussed earlier, neither APA nor Haruhiko teach or disclose the invention defined by the independent claims 1 and 16, upon which claims 4, 6, and 20 depend. Furthermore, Lee et al. also does not disclose connecting drive lines together such that image data applied by a data driver is simultaneously applied to two data lines. Lee et al. discloses a test circuit that includes switching TFTs for routing test signals, and does not teach or suggest image data that is applied to two data lines. Accordingly, withdrawal of the U.S.C. §103 rejections of claims 4, 6, and 20 are respectfully requested.

Rejection of Claim 5
under 35 U.S.C. §103(a)

The Office Action rejects claim 5, under 35 U.S.C. §103 over APA, Haruhiko and Lee as aforementioned in claim 4 in view of Keeney et al. Applicants respectfully traverse this rejection.

As discussed earlier, APA, Haruhiko, Lee et al., and Keeney do not teach or disclose the invention defined by the independent claim 1, upon which claim 5 depends. Accordingly, withdrawal of the rejection of Claim 5 under 35 U.S.C. §103 is respectfully requested.

Rejections of Claims 8-9, 11, and 13-14
under 35 U.S.C. §103(a)

The Office action rejects claims 8-9, 11, and 13-14 under 35 U.S.C. §103(a) over Henley, U.S. Patent No. 5,459,410, in view of Haruhiko. Applicants respectfully traverse this rejection. Claim 8, from which claims 9, 11, 13-14 depend, recites connecting at least one pixel of a defective column to a second column line by applying a control signal that selectively closes a switch such that image data applied to the second column line is applied to the at least one pixel. This feature is not taught or

suggested in any combination of the cited references. For at least that reason, amended independent claim 8 and dependent claims 9, 11, 13-14 are allowable.

Henley discloses a system of automatically identifying and repairing defects in active matrix LCD panels. Voltages are measured using electro-optic voltage imaging, and repairs are achieved by laser cutting and material deposition. Panel defects are stored in a defect file, which is used to identify the defects that are automatically repaired. However, Henley does not relate to selectively closing a switch to connect a pixel to a second column line, or even to applying image data to a pixel through a switch. As noted above, Haruhiko teaches connecting adjacent data lines together when image data is not being applied for the purpose of reducing power consumption.

In contrast to Henley and Haruhiko, claim 8 recites connecting a pixel of a defective column to a second column line by applying a control signal that selectively closes a switch such that image data applied to the second column line is applied to the pixel. Such is not taught in or suggested by Henley and Haruhiko. Accordingly, withdrawal of the 35 U.S.C. §103 rejection of claims 8-9, 11, 13-14 is a respectfully requested.

Rejection of Claim 10
under 35 U.S.C. §103(a)

The Office action rejects claim 10 under 35 U.S.C. §103(a) over Henley and Haruhiko as aforementioned in claim 9 in view of Keeney et al. Applicants respectfully traverse this rejection. Claim 8, from which claim 10 depends, recites connecting at least one pixel of a defective column to a second column line by applying a control signal that selectively closes a switch such that image data applied to the second column line is applied to the at least one pixel. For at least that reason, claim 10 is allowable.

As discussed earlier, Henley and Haruhiko do not teach or disclose the invention defined by claim 8, upon which claim 10 depends. Furthermore, as previously indicated, Keeney et al. also does not teach or disclose such limitations. Accordingly, withdrawal of the rejection of Claim 10 under 35 U.S.C. §103 is respectfully requested.

Rejection of Claim 12
under 35 U.S.C. §103(a)

The Office Action rejects claim 12 under 35 U.S.C. §103(a) over Henley and Haruhiko as aforementioned in claim 8 in view of Lee et al. Applicants respectfully traverse this rejection. Claim 8, from which claim 12 depends, recites connecting at least one pixel of a defective column to a second column line by applying a control signal that selectively closes a switch such that image data applied to the second column line is applied to the at least one pixel. For at least that reason, claim 12 is allowable.

As discussed earlier, Henley and Haruhiko do not teach or disclose the invention defined by the independent claim 8, upon which claim 12 depends. Furthermore, as previously indicated, Lee et al. also does not teach or disclose such limitations. Accordingly, withdrawal of the rejection of Claim 12 under 35 U.S.C. §103 is respectfully requested.

Rejection of Claim 15
under 35 U.S.C. §103(a)

The Office Action rejects claim 15 under 35 U.S.C. §103(a) as being unpatentable over Henley and Haruhiko as aforementioned in claim 14 in view of Keeney et al. Applicants respectfully traverse this rejection. Claim 8, from which claim 15 depends, recites connecting at least one pixel of a defective column to a second column line by applying a control signal that selectively closes a switch such that image data applied to the second column line is applied to the at least one pixel. For at least that reason, claim 15 is allowable.

As discussed earlier, Henley, Haruhiko, and Keeney et al. do not teach or disclose the invention defined by the independent claim 8, upon which claim 15 depends. Accordingly, withdrawal of the rejection of Claim 15 under 35 U.S.C. §103 is respectfully requested.

CONCLUSION

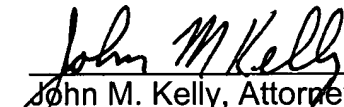
Thus, the applicants submit that all pending claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly requested.

If the Examiner deems that a telephone call would further the prosecution of this application, the Examiner is invited to call Mr. Eric Bram at (914) 333-9635. All correspondence should continue to be sent to the address of record (not to the signing attorney).

If these papers are not considered timely filed by the United States Patent and Trademark Office, or if any additional fees are required, kindly charge that fee to deposit account number 20-0782.

Respectfully submitted,

August 5, 2003



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